INVESTIGATION OF LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF AN AIRCRAFT MODEL WING WITH RGV FEATHER LIKE WINGLET

Presented by,

SIVARAJ A/L GOPAL KRISHNAN
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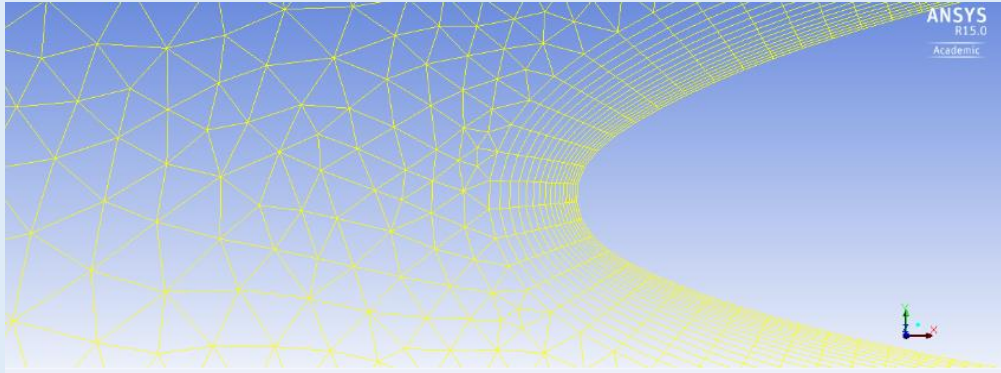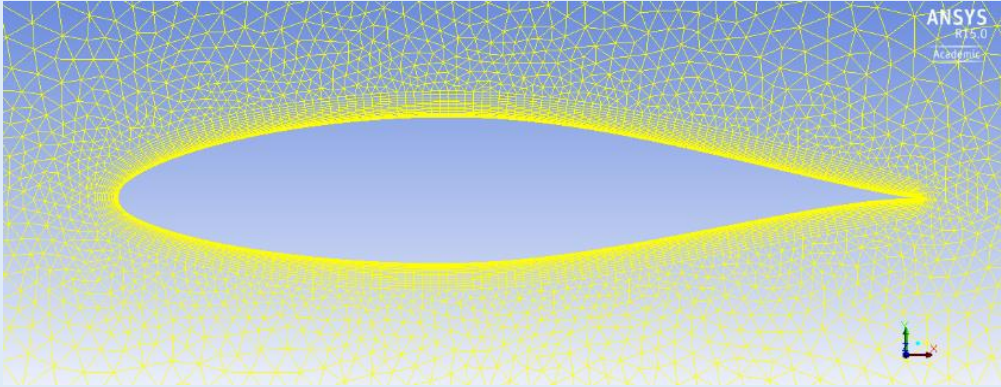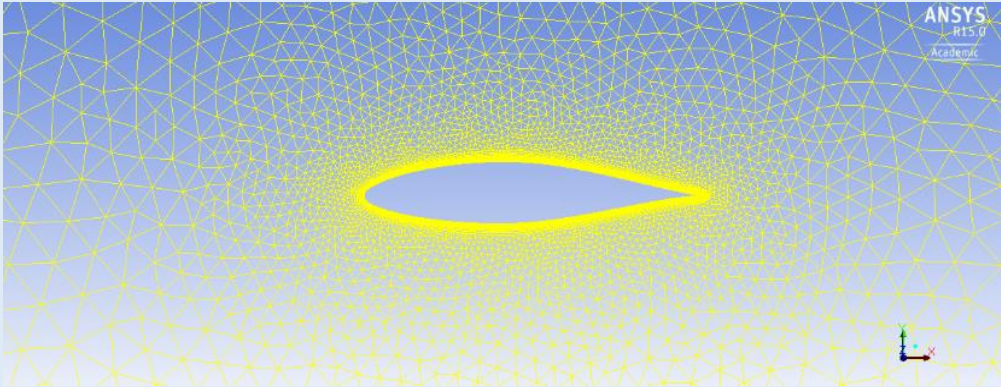
Supervisor: Dr.Farzad Bin Ismail

Master Of Science (Aerospace Engineering)
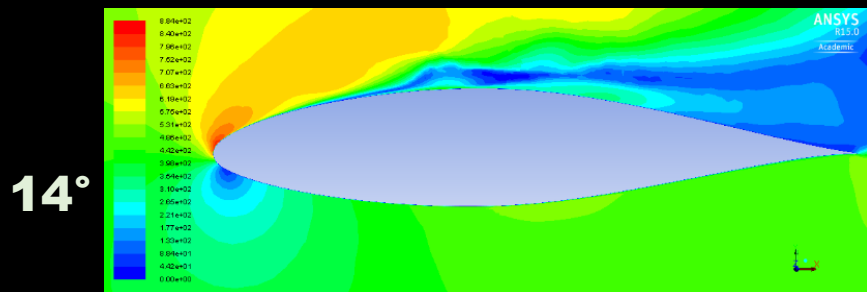**UNIVERSITI SAINS MALAYSIA**
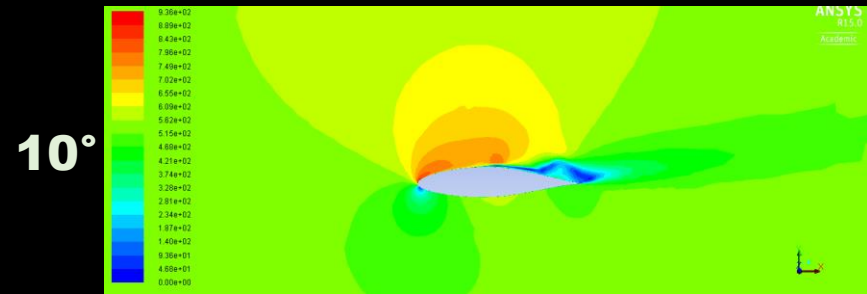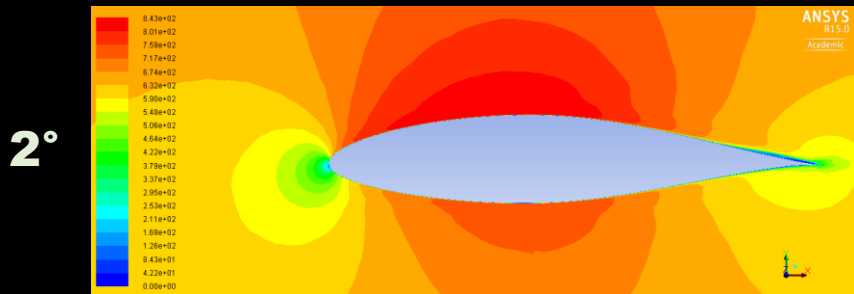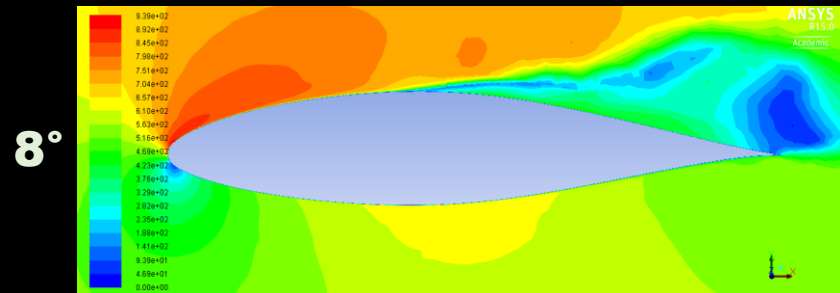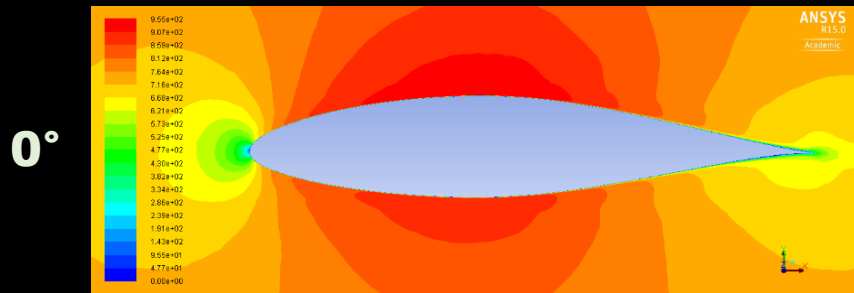
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OUTLINE OF PRESENTATION

+ **3D Model Meshing**

+ **Contour Plot, CP Plot,Velocity Magnitude**

+ **Graph Analysis**

+ **Conclusion**

MESHING
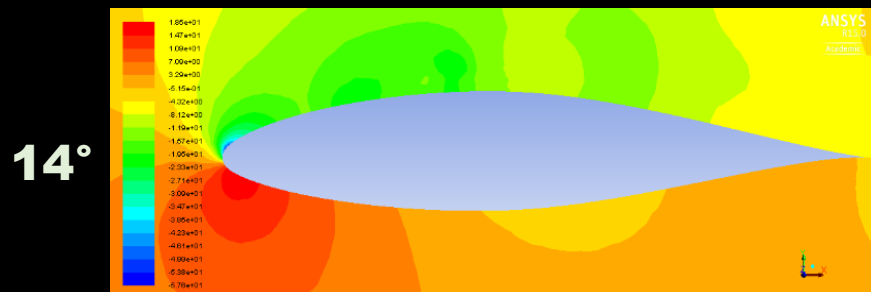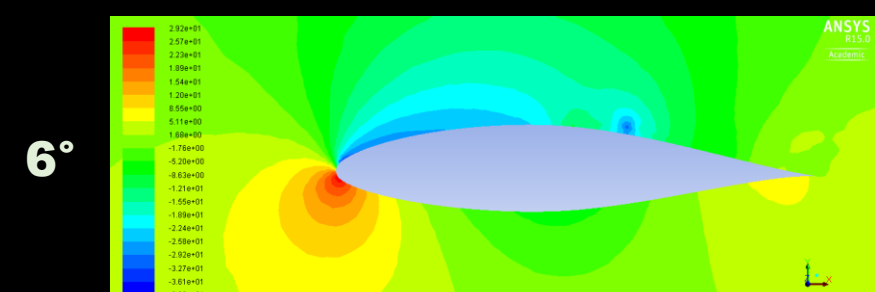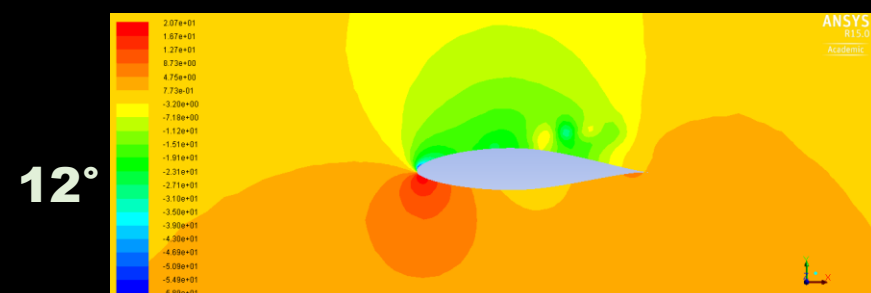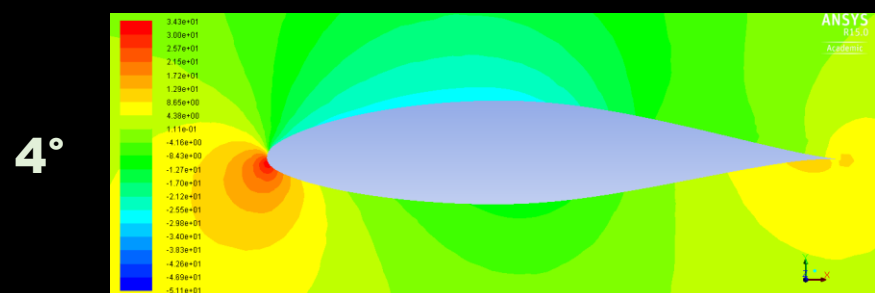
Contour Plot
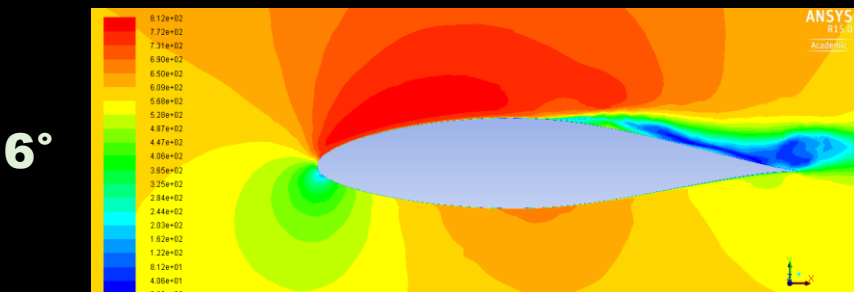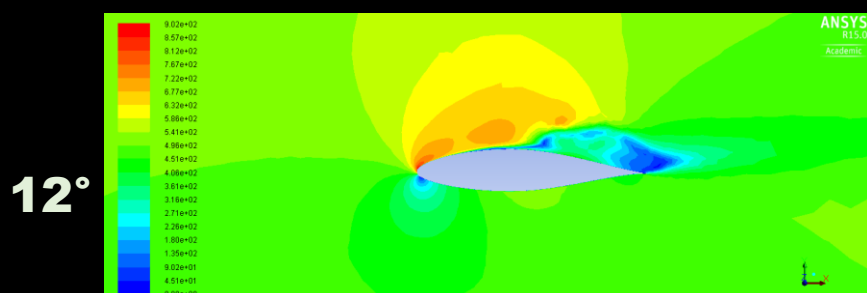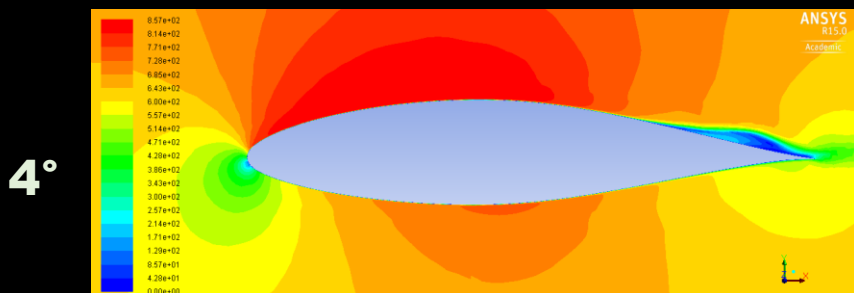
Coefficient Pressure C_P Plot
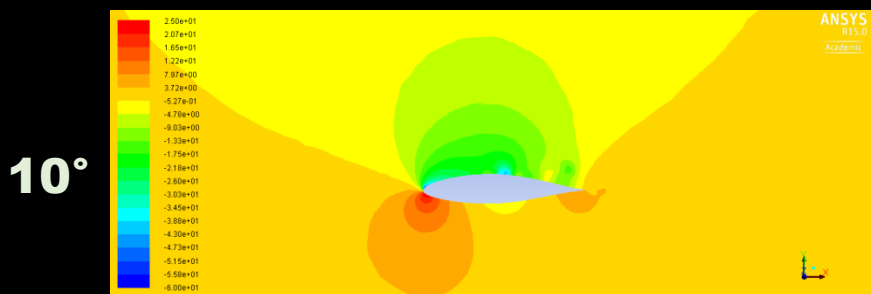
Velocity Magnitude
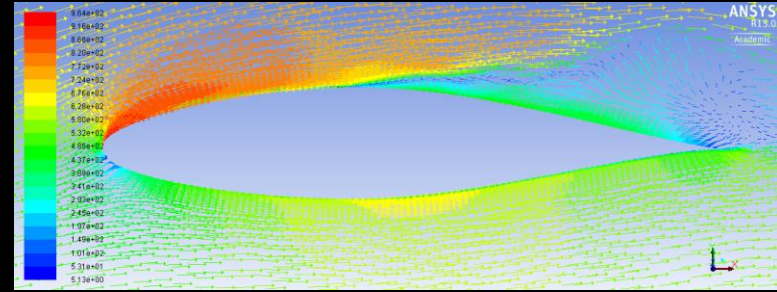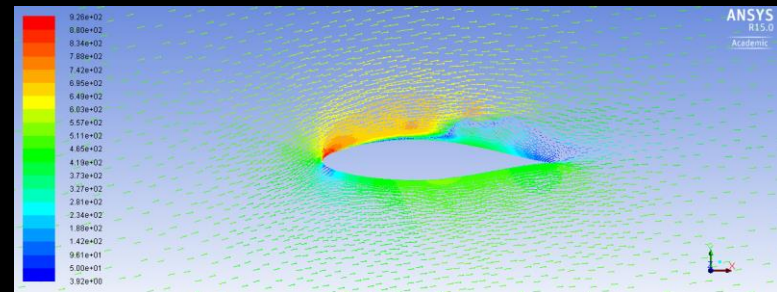
Figure 1: Graph Lift Coefficient $[C_L]$ versus Angle Of Attack $[\alpha]$ for Wing by ANSYS 15.0 and Experiment Result for Reynolds Number 1.7×10^5
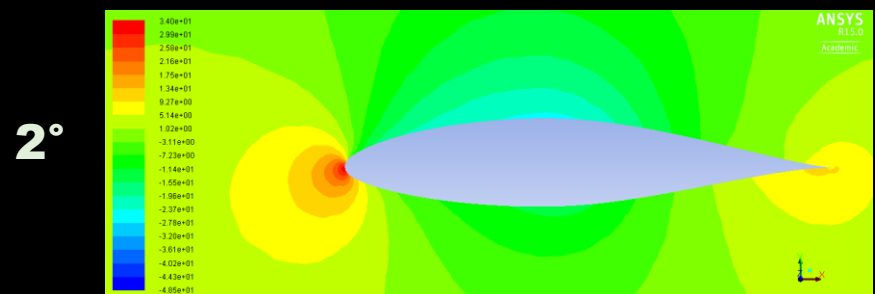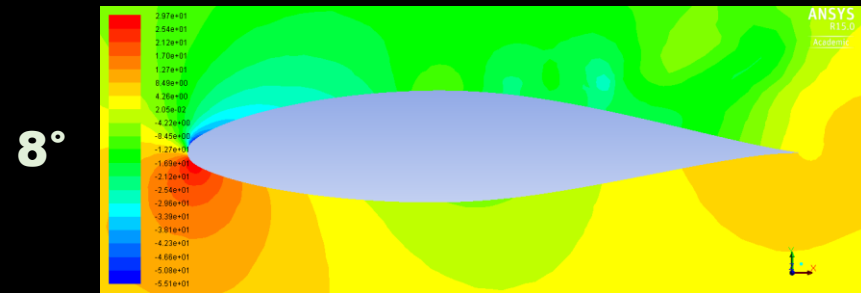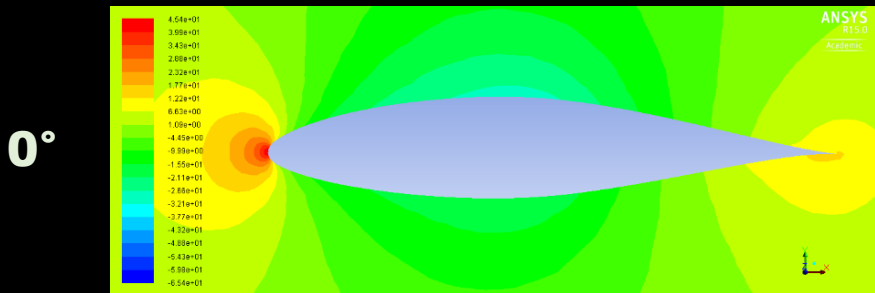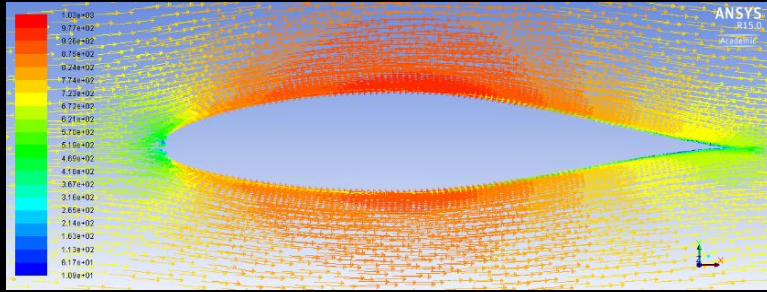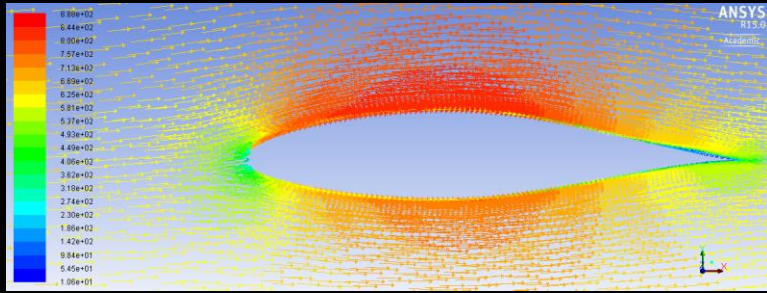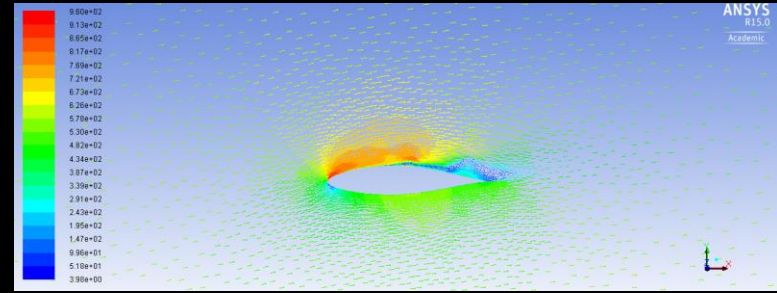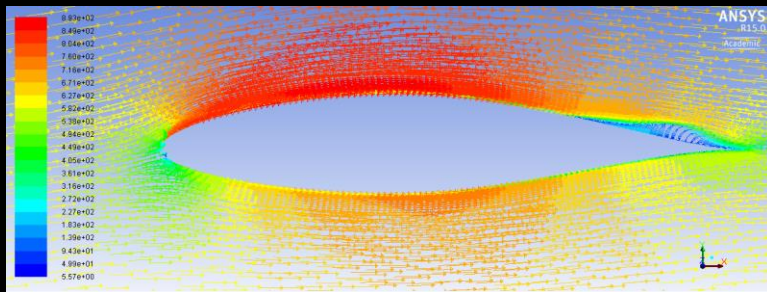
Figure 2: Graph Drag Coefficient $[C_D]$ versus Angle Of Attack $[\alpha]$ for Wing by ANSYS 15.0 and Experiment Result for Reynolds Number 1.7×10^5

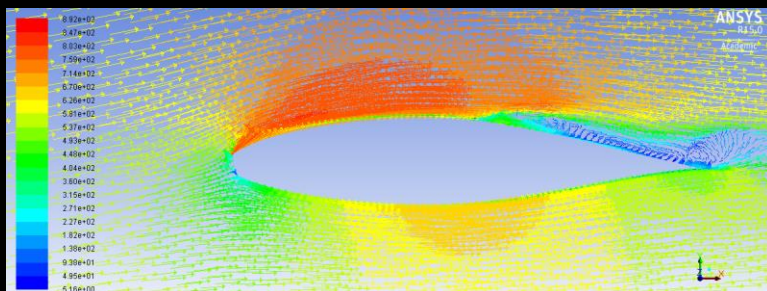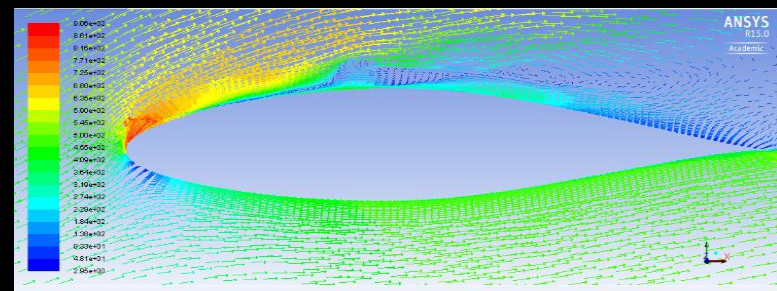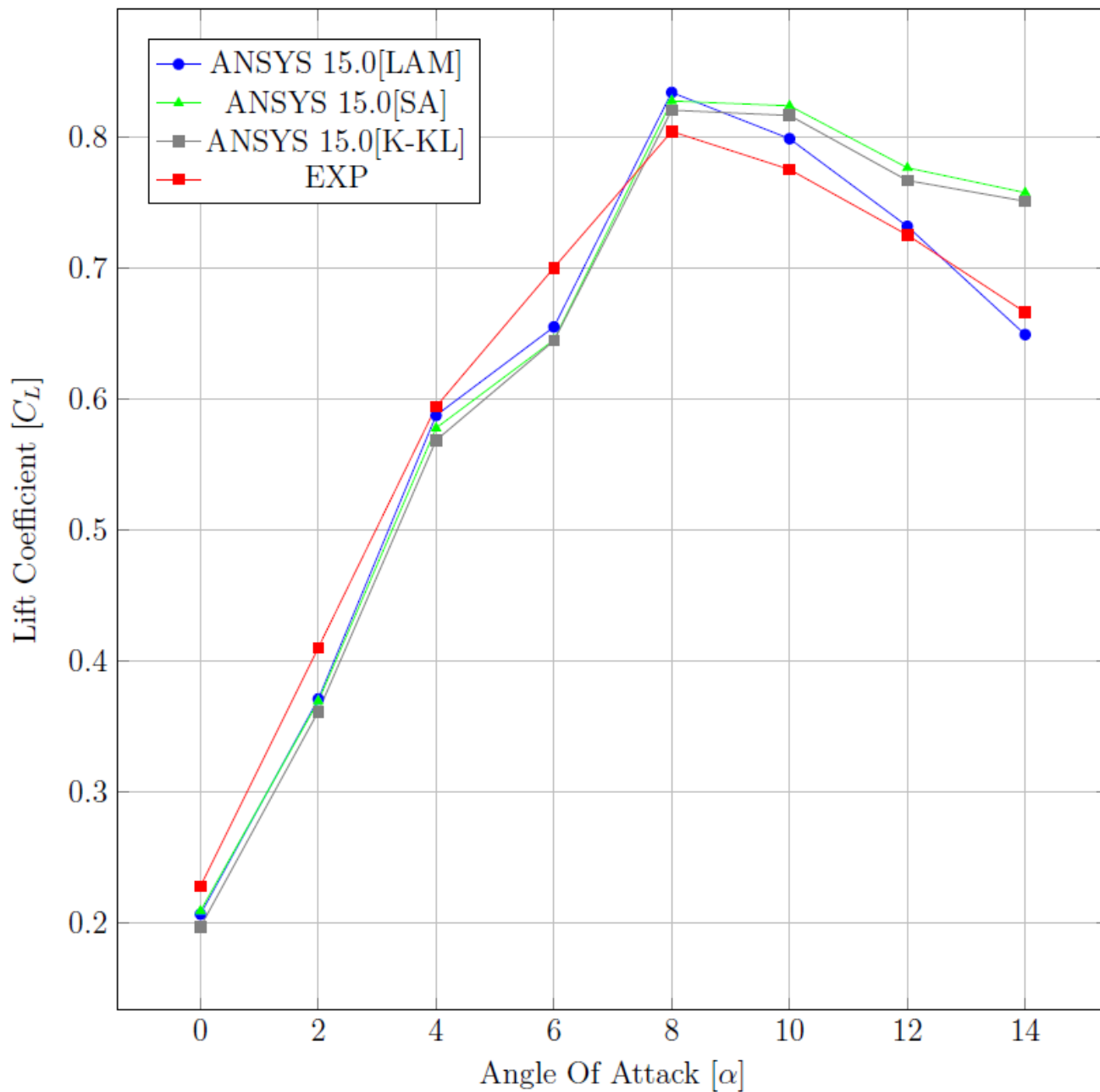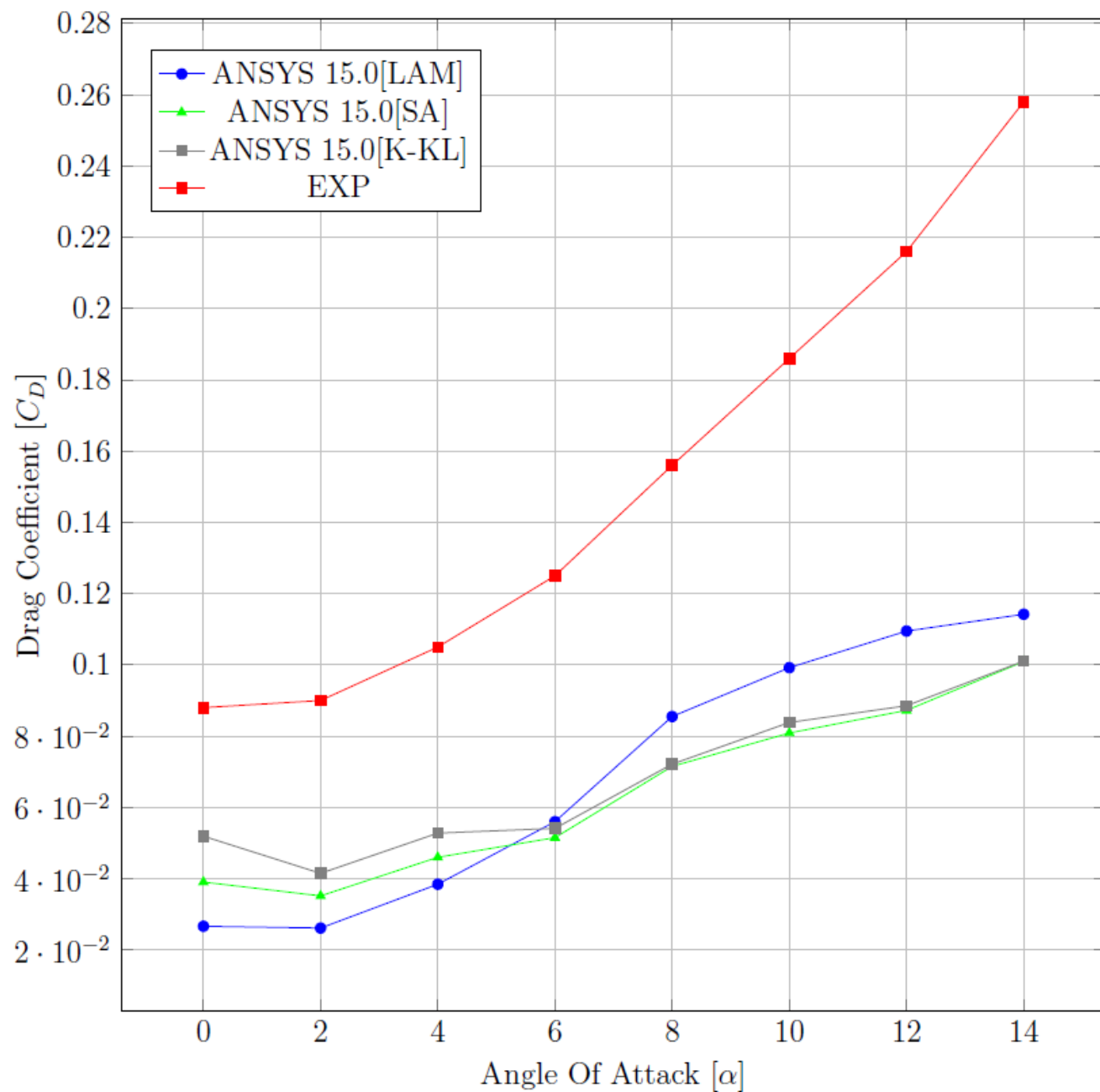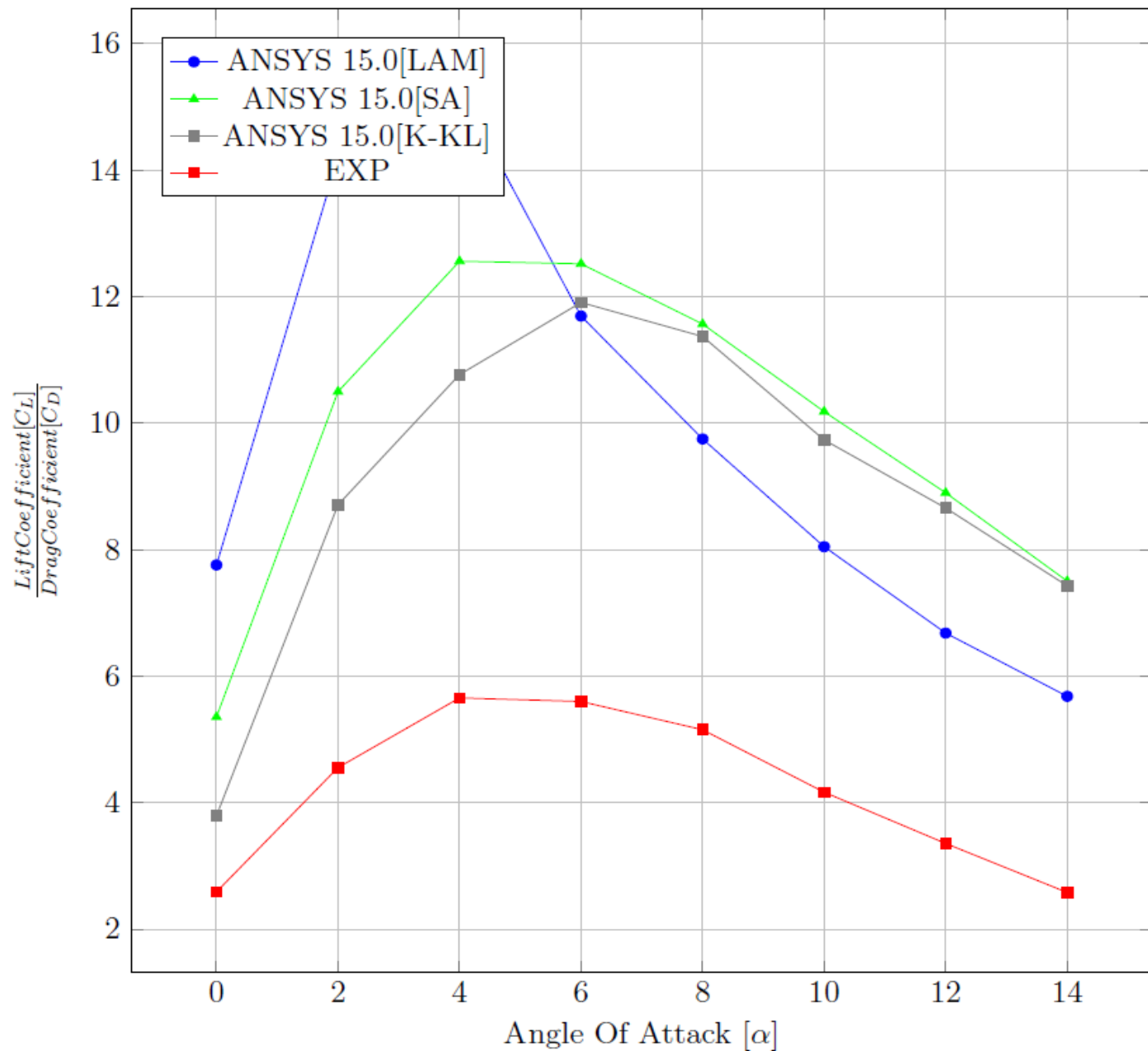Figure 3: Graph Lift Coefficient[C_L] over Drag Coefficient[C_D] versus Angle Of Attack [α] for Wing by ANSYS 15.0 and Experiment Result for Reynolds Number 1.7×10^5
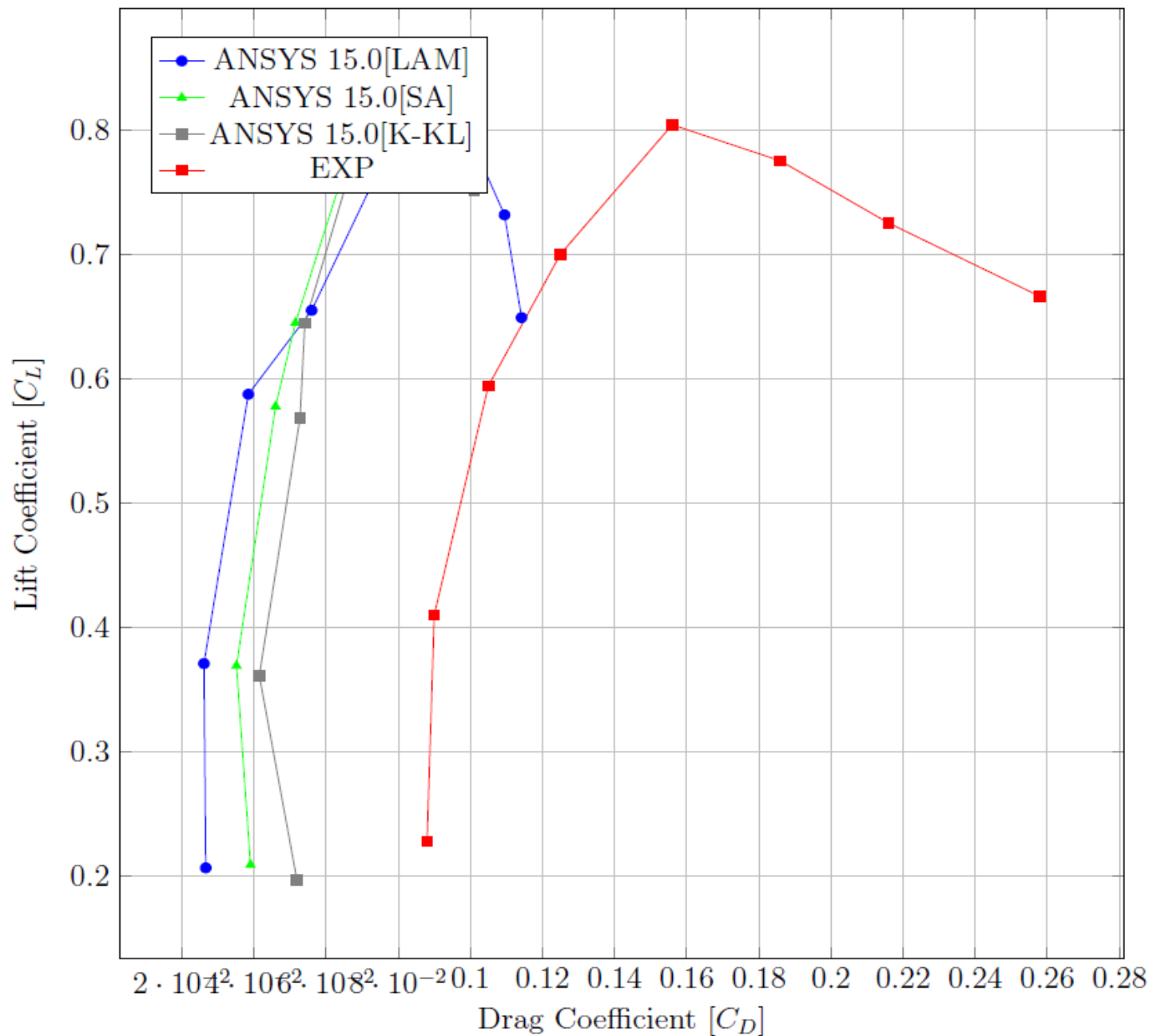
Figure 4: Graph Lift Coefficient $[C_L]$ versus Drag Coefficient $[C_D]$ for Wing by AN-SYS 14.0 and Experiment Result for Reynolds Number 1.7×10^5
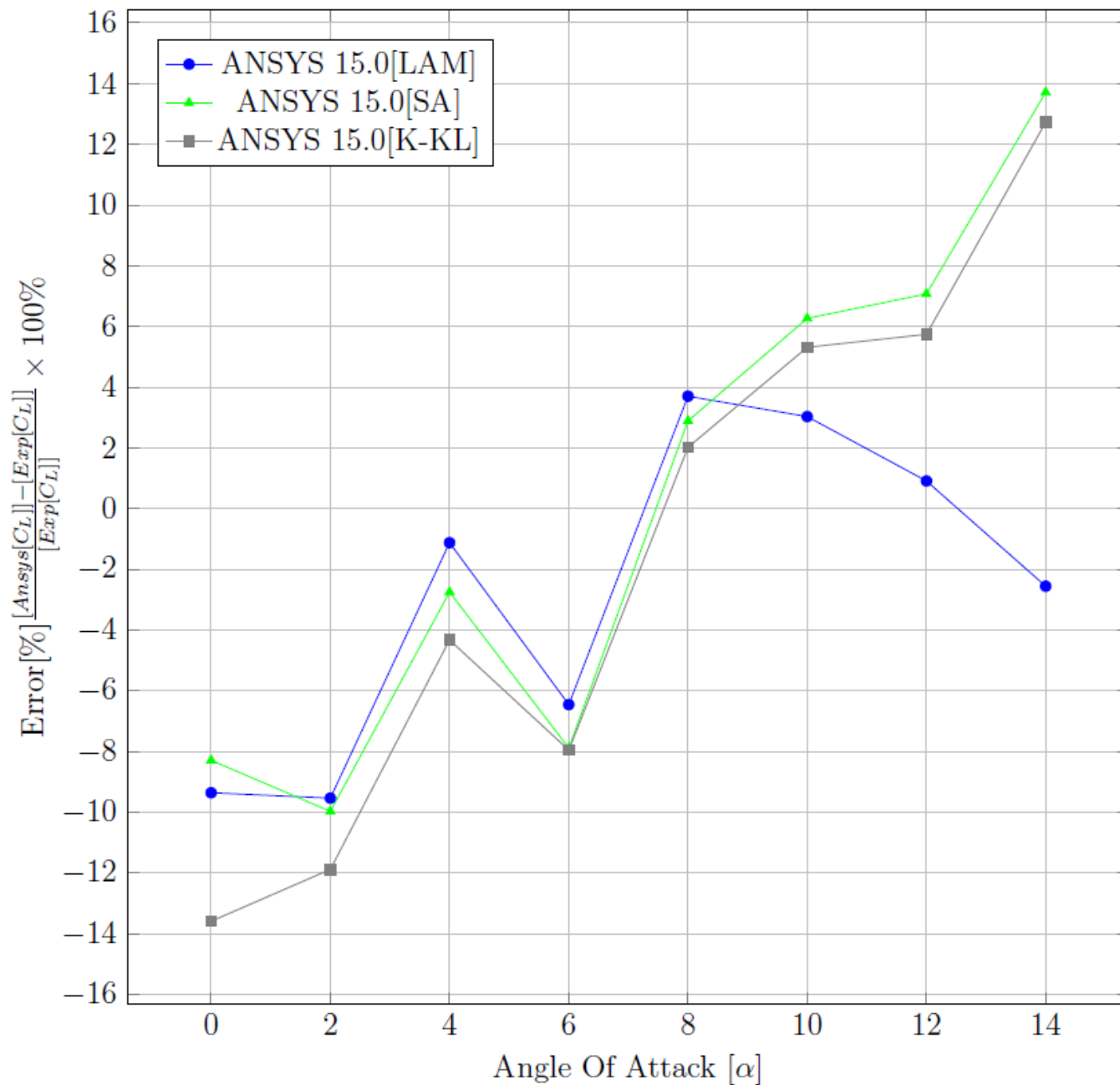
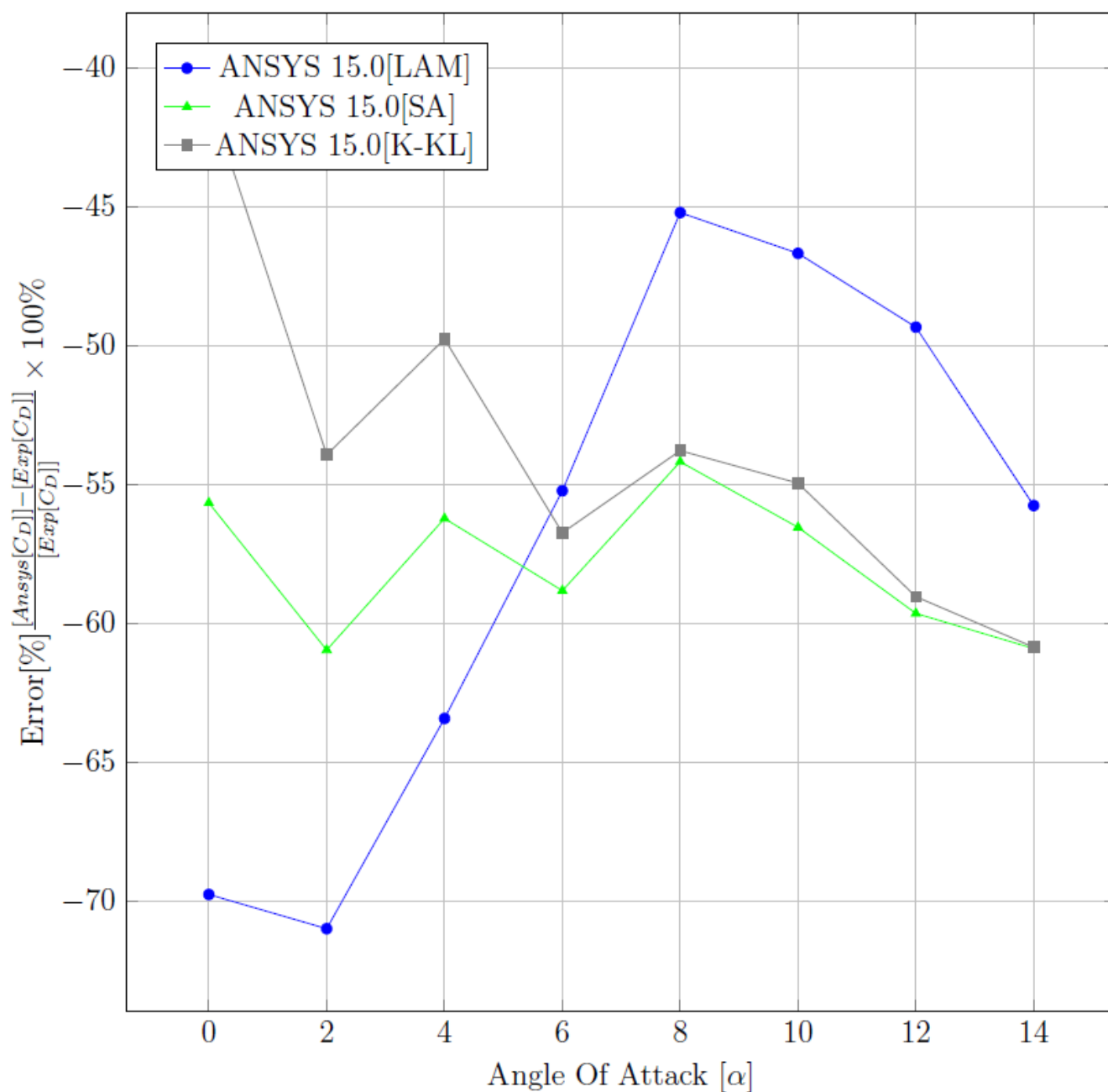Figure 5: Graph Coefficient of Lift Error[%] versus Angle Of Attack [α] for Wing for Reynolds Number 1.7×10^5
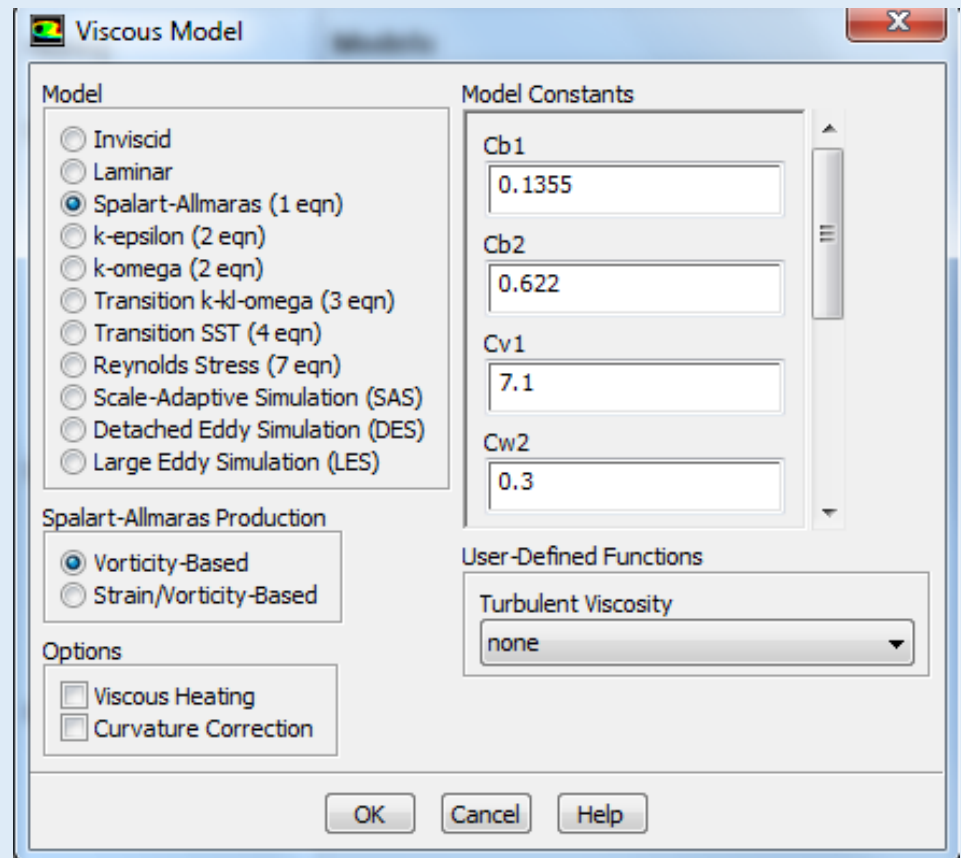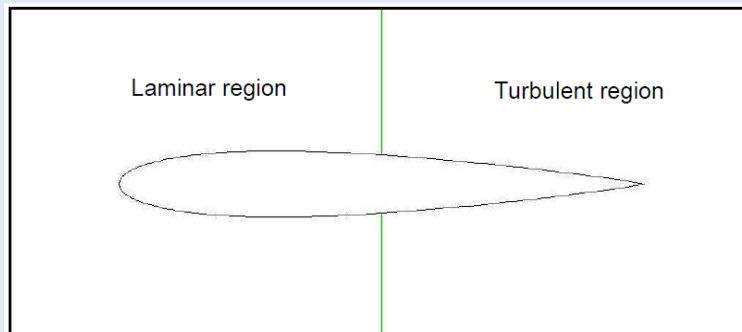
Figure 6: Graph Coefficient of Drag Error[%] versus Angle Of Attack [α] for Wing for Reynolds Number 1.7×10^5

DISCUSSION & CONCLUSION

- Different flow region cause CD Ansys value lower than Exp value

- Try to create different flow region in analysis

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